DETECTING REGION CARRYING TAPE, DETECTING ELEMENT, DETECTOR AND DETECTING SYSTEM

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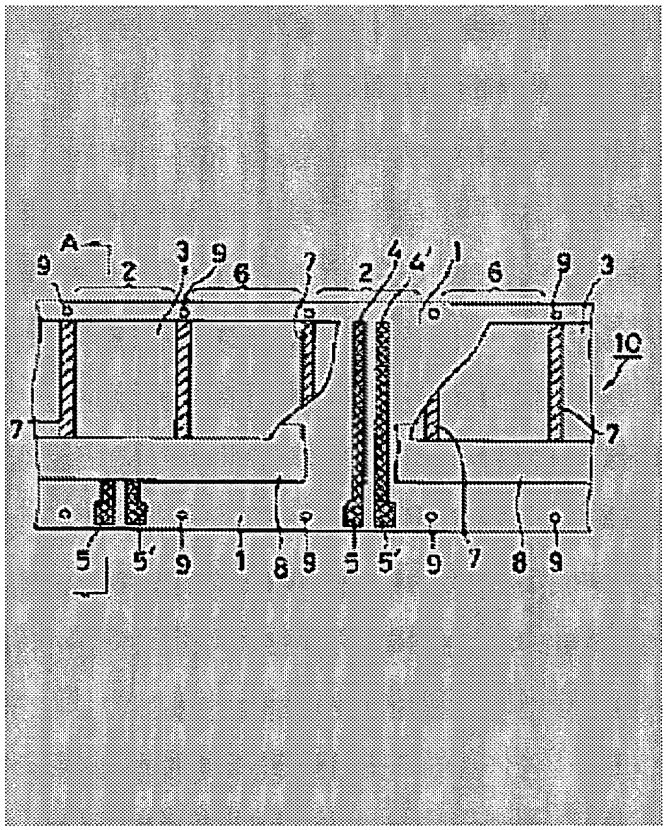
Abstract of **JP6222035**

PURPOSE:To provide a detecting region carrying tape, a detecting element, a detector and a detecting system. CONSTITUTION:The detecting region carrying tape 10 comprises a tape-like base 1 and a plurality of independent detecting regions 2 arranged thereon at an interval in the longitudinal direction wherein the detecting region 2 includes a porous reactant layer 3 carrying a biological catalyst, electrodes 4, 4', and joint terminals 5, 5'. The detecting element is an external reader jointing type containing a tape. The detector and the detecting system include detecting elements and a detecting region carrying tape. Since a pair electrode is provided on the disposable tape side and an electric signal is received on the repeatedly used device side, contamination is retarded while keeping high accuracy.



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Although the connection part 25 with the pitch feeding guide roller or a pulse motor is provided at the rear of the external reader jointing part 24 in the embodiment shown in Figs. 4 and 5, the connection part 25 may be provided in front of the sample receiving port 23 or between the sample receiving port 23 and the external reader jointing part 24. The external reader jointing part 24 is not necessarily arranged above the detection region carrying tape 10 shown in Fig. 5 and may be arranged, for example, in the vicinity of the sample receiving port 23. In this case, at the position where a sample is supplied at the sample receiving port 23, an electrical signal transmitting means capable of coming into contact with the joint terminals 5, 5' of the detection region carrying tape are provided in the casing 21. Preferably, the electrical signal transmitting means is formed of a conductive material and has joint terminals provided at both ends of the material. Whereby, one end of the electrical signal transmitting means can be connected to the joint terminals 5, 5' of the detection region carrying tape and the other end thereof can be made to contact against the joint terminals 34, 34' provided at the leading edge of the reading head 33 as the external

reader jointing part 24. Thus, by applying electric potential across the pair electrodes 4, 4' in advance, the sample can be adhered to the porous reactant layer 3 and at the same time, reaction can be detected, thereby eliminating detection error due to transfer of the tape from the sample receiving port 23 to the external reader jointing part 24. It is preferred that a window 39 formed of a transparent material is provided above the reels 28 and 36 in order to check remaining quantity of the unused detection region carrying tape 10. Furthermore, a controlled potential electrolysis device can be suitably used as the above-mentioned external reader 32 and preferably, an appropriate record and/or display device is provided so as to be connected to the controlled potential electrolysis device.